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ABSTRACT

The Barclay Classroom Climate Inventory is a multi-method, multi-trait inventory, derived from self-report, peer nominations and teacher judgments, offering a description of a student's characteristics in the classroom group and in grades, schools and other units. Traits of psychosocial development and extroversion introversion groupings of scales form multi-method factors that describe an educational environment in terms of task-orientation, social interaction, disruptiveness, seclusiveness, and like dimensions. The inventory consists of: (1) a self-report section that includes a list of self-competencies, occupations or skills of possible interest, and a list of possible reinforcers; (2) a group section of 26 sociometric nominations in areas similar to the self-report section; and (3) a teacher section of 62 adjectives for checking those typical of the child. Reliability and validity studies have been made. The multiple inputs from self, peers and teachers are integrated via a computer program into a written report and several tables that describe suspected problems of children. Judgments are based on factor scores and utilize conditional statements to examine alternatives. Eight problem areas have been identified: self-concept deficits, group interaction deficits, self-management deficits, verbal skill deficits, physical skill deficits, vocational development deficits, cognitive-motivation deficits, and poor attitude toward school. The inventory can be used to ascertain the distinctive characteristics and problems of particular grades and schools and provide clues to the specific type of intervention needed. (KM)

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Multiple Input Assessment and Preventive Intervention

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A major problem in implementing new learning strategies in the schools is that learning is influenced by student, teacher, curriculum, parental and other environmental factors. The school psychologist, counselor, teacher or administrative policy-making group must allocate limited resources to maximize educational efforts. This requires evaluating behaviors that relate not only to achievement, but self-competency, self-management, group interaction, motivation and other affective and social variables. If the school is to prevent rather than respond to problems it should consider evaluation as a routine as well as important diagnostic function of its program.

The purpose of this paper is to describe an assessment system that utilizes the child's self-report, his peer group and teacher expectations, offers a description of his characteristics both in the classroom group and in grades, schools and other units.

The Barclay Classroom Climate Inventory has been developed over a period of seven years. It is a multi-method multi-trait inventory derived from self-report, peer nominations and teacher judgments. Traits derived from Holland's theory of psychosocial development (1966) and extroversion-introversion groupings of scales form multi-method factors that describe an educational environment in terms of task-orientation, social

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interaction, disruptiveness, seclusiveness and like dimensions. Initially based on testing with two thousand elementary children, a recent standardization has been completed on nearly five thousand cases distributed through second to sixth grades, and including substantial groups of Blacks and Mexican-Americans. The inventory consists of a self-report section that includes a list of self-competencies such as "I can run fast." It also includes a list of occupations or skills in which children may be interested, a list of possible reinforcers relating to family, peer-group and social reinforcers. The group section consists of 26 sociometric nominations in areas similar to the self-report section. For example children in a class may be asked to nominate the child who can "run the fastest." The teacher judgments are derived from 62 adjectives. Those adjectives typical of the child are checked. Considerable research on typical reliability and validity questions has been conducted. Test re-test reliability of the scales is relatively high. Validation studies include correlation with external criteria, cross-validation with other instruments such as the 16 P.F. Test, the Kuder, and traditional sociometric devices. They also include convergent and discriminant analysis studies (Barclay, 1972).

The unique feature of the inventory is that the multiple inputs from self, peers and teachers are integrated via a computer program into a written report and several tables that describe suspected problems of children. Through the use of experimental, observational and clinical judgment data, inferences are made about interactions in children. These judgments are based on factor scores and utilize conditional "if" statements to examine

alternate possibilities. Eight problem areas have been identified using the various scales and factors. These are: (1) self-concept deficits, (2) group interaction deficits, (3) self-management deficits, (4) verbal skill deficits, (5) physical skill deficits, (6) vocational development deficits, (7) cognitive-motivation deficits, and (8) poor attitude towards school. In addition, teacher expectations can be judged independently by looking at mean indices calculated from the total number of positive adjectives versus negative adjectives checked to describe each individual. The computer also indicates the percentage of boys, the percentage of girls, and of the total class who show problems in specific areas. Figures 1 and 2 provide examples of the data output on an individual child and his class. In this particular instance boy #18 is a sixth grader who has deficits in self-concept, group interaction skills, verbal skills, vocational development and attitude towards school. Although these inferences should not be accepted uncritically, they are based on the convergence of self, group and teacher judgments on common factors.

-- insert Figures 1 & 2 about here ---

The utility of the system for evaluation in the elementary grades has been demonstrated in a number of school districts that have used the system. For differences between grades, schools and between districts can be obtained by comparing the frequency of problems observed.

Recently I have analyzed the output of three school districts and 143 classrooms (Barclay, 1973). A multivariate analysis of problems between grades, sexes, and predominant racial groupings was obtained. Although differences between grades and races

were obtained on cross-sectional rather than longitudinal data, it would appear that teachers' evaluation of children gradually declines from the second grade to the fifth grade with a gradual upswing noted in the sixth grade. This evidence suggests that the ratio of positive descriptors applied to children by teachers is much higher in the second grade than in the fifth grade. At the same time that teacher expectations appear to decline in favorability, the proportion of cognitive-motivation deficits increase. Attitude towards school gradually worsens. Though some progress appears to be evident in group interaction and self-management problems over the same time span, self-competency and seclusiveness move in negative directions.

Through the use of discriminant analysis it becomes possible to ascertain both the distinctive characteristics of schools and grades within the district, and differences existing between districts. For example, of the four schools located in a Southern university city district, one tends to be somewhat low on teacher judgments and has a high incidence of poor attitude and self-concept deficits. Another tends to be very well-controlled, but poorly motivated. Still another possesses unreasonably high teacher evaluations but much disruptive and acting-out behavior. A fourth shows marked differences between boys and girls both in teacher judgments and kinds of problems. These examples provide some information as to how the inventory is being used by school districts to ascertain the proportion of specific problems relating not only to a given individual, but to classrooms, and grade comparisons between schools.

Effective educational change will have to be focused on both the individual and the classroom. Our experience with the BCCI has led us to recognize some problems that really required such a multiple-needs assessment system for identification. For example, there appear to be distinctive differences that characterize classrooms. The combining of social interaction, personological and teacher expectation data suggests dimensions to learning that approach a temperament-treatment mediation in task-achievement. Moreover, it may well be that what we have called temperament in the past is largely determined by the susceptibility, reproductivity, and motivational processes relating to alternate models in the classroom (Bandura, 1972).

Our research findings have led me to conclude that educational change to be effective will have to be focused on the primary unit of interaction, i.e., the classroom. The diagnostic inferences provided by the present system function as clues. These clues may be compared to medical symptoms. Symptoms of coronary disease or attack exist in a variety of manifestations. They may include chest pains, difficulty in walking up stairs, poor circulation and the like. They are often mediated by excessive smoking, overweight, lack of exercise and so on. When all of these clues are put together with age factors and family history there is a rather good predictive possibility of a heart attack. The diagnosis or predictive judgment can, however, be changed by active intervention.

Specific to the educational environment what this means is that diagnostic clues arrived at from a multiple needs assess-

ment system may suggest differential treatments. If within a given district, school A tends to show a very low teacher evaluation and many poor attitudes towards school as well as a high frequency of behavior management problems, then it may be relevant to aid this school through a behavior modification or structured curriculum approach. If school B has many deficits in self-esteem and group interaction it may be relevant to develop a curriculum or counseling procedure that accents the develoOment of self-competency skills and verbal interaction processes.

In the past we have been all too prone to try a single new curriculum vehicle for an entire district. Or we may be persuaded to institute this or that approach. What seems evident from the literature is that no single set of approaches works best with all children and teachers. Some children may learn reading best through a kinesthetic approach. Others through a visual modality. Still others may do better with an auditory approach. Probably all can gain something from each approach, but individuals can profit and accelerate their own learning by maximizing a specific approach related to their needs and special capabilities.

The existence of the BCCI system and our efforts to utilize it in the school setting has led to further conclusions. One of these is that school personnel need to be trained to think in preventive terms. Doing this means that teachers, principals, psychological staff and others need to assign a high priority to intervention on the basis of clues rather than reconstruction after the crisis. Another conclusion is that we need to teach

school personnel how to make decisions based on data. Very often school personnel are overwhelmed with the amount of information they receive through the BCCI. Though many have complained about wishing to know about self-concept, group skills and the like, it is quite evident that when they actually do have the data in hand, they do not know what to do next. A third conclusion is that we have found it necessary to analyze various intervention strategies and order them into some kind of taxonomy. This taxonomy of prevention has begun to work quite well in our attempt to retrain teams of school personnel to think preventively on the basis of data, problems and strategies.

We have found that strategies of intervention can be broadly grouped into three categories: (1) information feed-back, (2) social interaction exercises and opportunities for social modeling, and (3) environmental manipulation or restructuring. It would be naive and premature for me to state that we have worked out a "goodness of fit" relationship between individual differences, problems and alternate strategies. But we do think that we are on the way to a researchible paradigm using these categories.

Our experience in working with schools suggests that many of the minor problems of individuals can be approached on the first level, i.e. information feed-back. By this level of strategies is meant providing information back to the student (or the teacher if she is the target of change) about how he is being perceived. This can take the form of reporting back the BCCI results, audio or video feed-back, test analysis and the like. A byproduct of this feedback is understanding about the

child's learning style, his interests and motivation. Often this results in a change of rules, a more flexible learning structure, the use of a resource center or the like. Though we cannot posit causal relationships between problems such as group interaction deficits and self-management problems, often we observe that intervention with one problem leads to amelioration of others.

The second level of intervention is often supplementary to the first and involves the development of social interaction skills and the use of exemplary models. Here study skills groups, groups relating to specific social skills, vocational exploration and the like can be skillfully used to develop both verbal interaction on a reciprocal level and confidence in problem-solving. In addition, the use of students as tutors for others with similar problems, assigned roles in psychodrams, community and teacher-aide roles and simulation games provide an excellent opportunity for social reinforcement and social modeling.

The third level is reserved for more severe problems in that it includes environmental adjustments at school and at home. This may involve replacement in another group, special reinforcement and social learning techniques designed to develop self-control such as carrels, time-out procedures, desensitization and the like.

Crucial to strategy determination are two further considerations:(1) the number of problems a child has, both as reported by the BCCI, and (2) the capabilities of the school resources to deliver the strategies. In the first of these,

it can be noted from Figure 2 that our student # 18 has a number of problems indicated. Consultation with teacher and principal may indicate there is low achievement, a poor home situation or a combination of further problems. What the learning team decides to do in this instance may be much more than might be done with another child who is simply noted as reticent. In addition, what the local team can do is dependent on resources and skills they possess. Thus it is often necessary to conduct some in-service training for school personnel to aid them in utilizing the resources they have.

From the research and experience I have had with the development of a computerized approach to assessment, I think we are witnessing a new technological leap in education. The computer can provide data on social and affective variables in a comprehensive and diagnostic manner. It then makes the problem of working with individual differences and alternate strategies both a logical and possible educational alternative. Still more, it makes the determination of a prevention-intervention model a real possibility. The humanistic use of the computer is a key factor to this pending revolution.

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Figure 1
Sample Individual Report

STUDENT NUMBER 18 IS A BOY IN THE 6 GRADE.

THE FOLLOWING ARE IMPRESSIONS OF HIS SELF-COMPETENCY SKILLS:

LOW GLOBAL ESTIMATE OF SELF-COMPETENCY SKILLS. LOW SELF-ESTIMATE OF ARTISTIC-INTELLECTUAL SKILLS. ABOVE AVERAGE SELF-ESTIMATE OF REALISTIC-MASCULINE SKILLS. LOW SELF-ESTIMATE OF SOCIAL SKILLS. AVERAGE SELF-ESTIMATE OF ENTERPRISING SKILLS.

THE FOLLOWING ARE IMPRESSIONS OF HIS KNOWLEDGE OF THE FIELD OF WORK, AS A FUNCTION OF ACQUAINTANCE WITH THE ENVIRONMENT:

APPEARS TO EXPRESS AN AVERAGE AWARENESS OF VOCATIONAL ALTERNATIVES IN THE FIELD OF WORK. SHOWS LITTLE OR NO INTEREST IN MANUAL AND OUTDOOR OCCUPATIONS. SHOWS LITTLE OR NO INTEREST IN SCIENTIFIC, TECHNICAL, AND INTELLECTUAL-ORIENTED OCCUPATIONS. SHOWS LITTLE OR NO INTEREST IN SOCIAL OCCUPATIONS CALLING FOR INTERPERSONAL SKILLS. SHOWS AVERAGE INTEREST IN ARTISTIC AND CREATIVE OCCUPATIONS.

THE FOLLOWING ARE IMPRESSIONS OF HIS PERSONAL AND INTERPERSONAL SKILLS AS JUDGED BY PEERS:

PERCEIVED GLOBALLY BY PEERS AS POSSESSING FEW PERSONAL OR SOCIAL SKILLS. PERCEIVED BY PEERS AS POSSESSING SOME ARTISTIC AND INTELLECTUAL SKILLS. PERCEIVED BY PEERS AS LACKING REALISTIC AND MASCULINE SKILLS. PERCEIVED BY PEERS AS POSSESSING SOME SOCIAL COMPETENCIES AND SKILLS. NOT PERCEIVED BY PEERS AS MANIPULATORY OR POSSESSING INTERPERSONAL LEADERSHIP SKILLS. PERCEIVED BY PEERS AS BEING SOMEWHAT RETICENT, SHY, AND WITHDRAWN. IS NOT PERCEIVED BY PEERS AS DISRUPTIVE WITHIN THE CLASSROOM.

THE FOLLOWING ARE IMPRESSIONS OF HIS PERSONAL AND SOCIAL ADJUSTMENT AND EFFORT AND MOTIVATION AS RATED BY THE TEACHER:

MANIFESTS SOMEWHAT INCONSISTENT PATTERN OF PERSONAL ADJUSTMENT. MANIFESTS OCCASIONAL POOR SOCIAL ADJUSTMENT. MANIFESTS OCCASIONAL POOR EFFORT AND MOTIVATION.

SUMMARY:

THIS BOY IS IN GREAT NEED OF HELP IN THE DEVELOPMENT OF PERSONAL AND INTERPERSONAL SKILLS. THIS BOY'S BEHAVIOR BASED ON SELF, PEER AND TEACHER JUDGMENTS DOES NOT APPEAR TO BE VIEWED CONSISTENTLY AS EITHER EXTROVERTED OR INTROVERTED, CONTROLLED OR IMPULSIVE. HE APPEARS TO MANIFEST A BLEND OF TEMPERAMENT AND RESPONSE MODES.

THIS CHILD SHOWS HIGH INTERESTS IN PEER GROUP MALE REINFORCERS AVERAGE INTERESTS IN SELF-STIMULATING, ESTHETIC, TASK-ORIENTED, FAMILIAL, CONVENTIONAL, PEER GROUP FEMALE REINFORCERS AND LITTLE OR NO INTEREST IN THE REMAINING REINFORCERS.

THIS CHILD'S JUDGMENT OF THE SCHOOL ENVIRONMENT IS SOMEWHAT UNFAVORABLE.

STUDENT NUMBER 18 CLASSIFICATION CODE (85)

SELF-RATED SCALES				GROUP NOMINATION SCALES				VOCATIONAL PREFERENCE SCALES					TEACHER ADJECTIVE SCALES						BEHAVIORAL SCALES			
SAI	0-			GAI	2	GR	1	REAL	0-	ENTR	0	ST 2	PA+	0	SAO	7	MEL	6*	SSR	13	CNV	1
SRM	4			GRM	1-	GD	2-	INT	0-	ARTS	0		SA+	0	EFFO	6	CHL	5*	ESR	14	PRM	3
SSC	1-			GSC	2			SOC	0-	CONT	8*		EFF+	0	TR7	0-	PHL	0	ITR	15	PRF	1
SE	4	STOT	9-	GE	1-	GTOT	6-	CONV	0-	MF	7*	VTOT 17	PAO	6	TR8	19*	SAN	0	FRR	18	CCI	

Figure 2
Sample Cumulative Problems Summary

EXPLANATION OF SUMMARY TABLE NO. 2
IN THIS TABLE THERE ARE EIGHT SUSPECTED PROBLEM AREAS. THESE AREAS ARE DERIVED FROM THE TOTAL PATTERN OF SCORES OBTAINED ON THE INDIVIDUAL STUDENT. THE NUMBER AND PERCENTAGE OF CHILDREN WITH PROBLEMS IN CERTAIN AREAS ARE INDICATED BELOW THE TA

	POSSIBLE TARGET AREAS FOR PROBLEM INTERVENTIONS							
STUDENT AND SEX	SELF CONCEPT	GROUP SKILLS	SELF-CONTROL SKILLS	VERBAL SKILLS	PHYSICAL SKILLS	VOCATIONAL DEVELOPMENT	COGNITIVE DEVELOPMENT	ATTITUDE TOWARD SCHOOL
1/M						*		
2/F	*						*	
3/F	*				*			
4/F				*				
5/M							*	*
6/M						*		
7/F	*				*			
8/M								
9/F	*	*			*		*	
10/F								
11/F		*		*				*
12/M	*							*
13/F	*				*			
14/F						*		
15/M								
16/F	*				*	*		*
17/M								
18/M	*	*		*		*		*
19/F								
20/F					*			
21/F	*							
22/M	*	*		*				*
23/F								
24/M			*					
25/F								
26/M	*			*				*

SEE PROFILE ANALYSES OF BCGI CLASSIFICATIONS IN USER'S MANUAL PP. 59-108 AND SUMMARY OF STUDENT TARGET SKILLS AND ALTERNATE STRATEGIES P. 111.

MALES	4.	2.	1.	3.	0.	3.	1.	5.
PCT	36.	18.	9.	27.	0.	27.	9.	45.
FEM.	7.	2.	0.	2.	6.	2.	2.	2.
PCT	47.	13.	0.	13.	40.	13.	13.	13.
GROUP	11.	4.	1.	5.	6.	5.	3.	7.
PCT	42.	15.	4.	19.	23.	19.	12.	27.